



PROJECT

Virador

LOCATION

Glasgow Recycling and Renewable Energy Centre (GRREC)  
Polmadie

INDUSTRY SECTOR

Energy from Waste

PARTNERS

Interserve

SOLUTIONS

Integrated Fire Engineering Solution for fuel storage, processing and transfer conveyers

BENEFITS

- Comprehensive fire safety to GRREC high risk
- Protection for the local environment

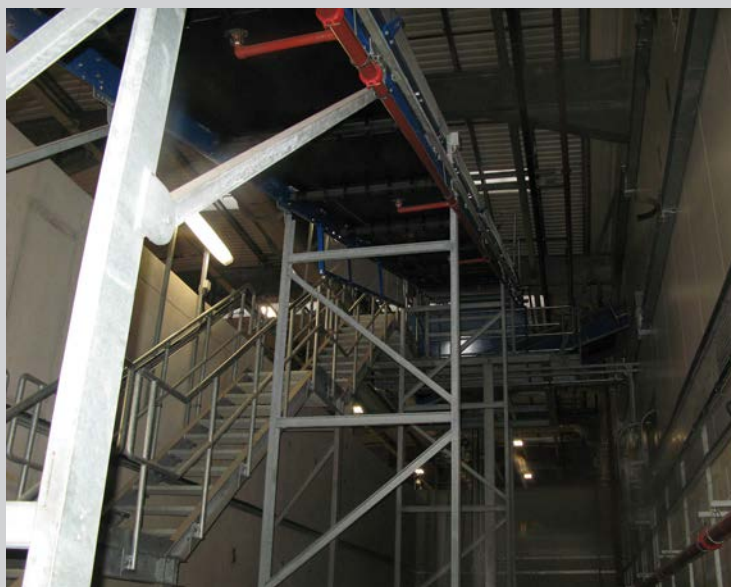
THE CHALLENGE

A new recycling and renewable energy centre has changed the skyline along Polmadie Road in the South Side of Glasgow. This facility will have the capacity to recycle 200,000 tonnes of domestic waste annually and replaces a well established waste depot with its landmark towering chimneys. The new plant will divert residual waste whilst releasing recyclable resources from household waste and producing enough energy to power 22,000 households in the city. The complex processes and risk factors required a comprehensive and integrated range of fire protection measures.

THE SOLUTION

Vipond Fire have provided a wide range of system solutions from fire sprinklers at roof level fed from a 1.25 million water storage tank, water monitors, infrared flame detectors and gaseous fire suppression systems. These solutions are tailored to the industrial processes, starting where fuel arrives at Waste Reception in its raw condition and enters the recyclable material process. The material proceeds from here to the manufacturing recycling facility (MRF,) where Triple Infrared Flame Detectors are strategically positioned to protect this process as fuel is converted to residual dry fuel (RDF)

“... measuring 70m long x 20m wide and 12 m high. The basis of the fire system design within the residual dry fuel (RDF) Bunker allows any two of the three water cannons to operate simultaneously delivering 946 litres per minute at 6.89 Bar to the heart of the fire.”



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#### COMPANY STATEMENT

Vipond is proud to be working in partnership with Interserve to provide the best Fire Engineering solutions for GRREC. The scale of the recycling processes being constructed and the sheer magnitude and geometry of the site posed significant challenges in terms of coordination alone. However our vast wealth of experience in this vital Industry Sector has enabled Vipond to deliver the best fire safety system solutions for the risks involved.

#### COMPANY PROFILE

Vipond Fire Protection Ltd has its roots going back to 1969, when it was started as a small family owned business. In 1998 it was acquired by Vipond Inc of Canada. The company has since expanded and grown and now has 5 offices covering the whole of the UK and Ireland. Vipond Fire Protection Ltd is ultimately owned by API Group Inc.

API Group Inc. is a multi-billion-dollar parent company for 38 independently managed construction companies in more than 200 locations worldwide. API Group combines the personal attention of small-to-medium sized construction companies with the strength of a global industry leader to build a safer environment, develop leaders and bring innovation to the construction and fire protection and suppression industry. Since 1926, API Group has grown by acquisition to become the stellar multi-billion-dollar company it is today.

The secret? Our subsidiaries maintain who they are. They keep the identity, reputation, customer relationships and culture they've worked hard to establish.

API Group's subsidiaries have collectively served customers on all continents, including Antarctica.

#### CONTACT DETAILS

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“These monitors have the option to operate automatically upon receiving a pre-determined signal and further have an automatic oscillation mode as well as a manual override function. The monitors have ‘spray’ and ‘jet’ water delivery modes.”

The fire sprinkler system is in accordance with NFPA 13 and the water supplies are provided for by the sprinklers. The water supply is driven by two diesel fire pumps plus a jockey pump. The systems are also designed to ACE in conjunction with the client's requirements

The residual dry fuel stored within the bunker area is protected from fire by a number of measures including coverage by roof level Fire Sprinklers. This is further enhanced by the deployment of three 80mm Water Monitors. These firefighting cannons are automatically actuated by triple IR flame detectors. Providing super-fast fire detection the infrared detectors enable the cannons to provide a fast knock-down of a potentially devastating fire. With the RDF bunker measuring 70m long x 20m wide and 12 m high the basis of the system design allows any two of the three water cannons to simultaneously deliver 946 litres per minute at 6.89 Bar to the heart of a fire. The monitors can oscillate in a ‘spray’ or ‘jet’ water delivery mode. They also have a manual control function.

Another area of focus in the process from a fire engineering perspective, are transit points where the conveyors pass through fire compartments within the building. The “belts” travel at 7.5 litres per minute so additional coverage was considered important here.

These transit points cannot be sealed so protection is provided by a metron actuated Multiple Jet Control water deluge system. These normally closed devices (MJC's) are opened rapidly by the Metrons to deliver water to any fire occurring at these transit points. They are activate on receiving signal from linear heat detection.

If a fire is detected along a conveyor within 10 metres of a transit point, the Linear Heat cable actuates a Metron actuator which in turn open the MJC's.

#### THE OUTCOME

All in all a comprehensive fire protection package that helps secure property and people at GRREC and the larger community in the surrounding largely residential Polmadie district of Glasgow.

